

REMARKS

Claims 1-19 are pending in the subject application. Claims 1, 6, 10-14 and 17 are independent.

Applicants appreciate the Examiner's acceptance of the original drawings filed on September 8, 2003.

Claims 1-19 are presented to the Examiner for further consideration on the merits.

A. Introduction

In the outstanding Office Action Made Final, the Examiner rejected claims 1, 5, 6, 8, 10, 14 and 16-18 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,993,314 to Lim et al. ("the Lim et al. reference") in view of U.S. Patent Application Publication No. 2003/0114129 to Jerng ("the Jerng reference") and U.S. Patent No. 6,215,988 to Matero ("the Matero reference"); rejected claims 2, 3, 9 and 15 under 35 U.S.C. § 103(a) as being unpatentable over the Lim et al. reference, the Jerng reference, the Matero reference, and further in view of U.S. Patent No. 5,929,716 to Komori et al. ("the Komori et al. reference"); rejected claims 4 and 7 under 35 U.S.C. § 103(a) as being unpatentable over the Lim et al. reference, the Jerng reference, the Matero reference, and further in view of U.S. Patent No. 5,929,708 to Davis et al. ("the Davis et al. reference"); rejected claims 11, 12 and 19 under 35 U.S.C. § 103(a) as being unpatentable over the Lim et al. reference in view of the Komori et al. reference; and rejected claim 13 under 35 U.S.C. § 103(a) as being unpatentable over the Lim et al. reference in view of the Jerng reference.

B. Asserted Obviousness Rejection of Claims 1, 5, 6, 8, 10, 14 and 16-18

In the outstanding Office Action Made Final, the Examiner rejected claims 1, 5, 6, 8, 10, 14 and 16-18 under 35 U.S.C. § 103(a) as being unpatentable over the Lim et al. reference in

view of the Jerng reference and the Matero reference. Applicants respectfully traverse this rejection for at least the following reasons.

No *prima facie* case of obviousness has been set out against claims 1-19. After careful review and consideration of the Examiner's application of the prior art references vis-à-vis claims 1-19 of the present invention, applicants respectfully submit that the Examiner's arguments for rejecting claims 1-19 of the present application are not based on what is, in fact, disclosed or suggested by the prior art references. In particular, col. 14, line 40, to col. 18, line 14, of the Lim et al. reference does not disclose or suggest that which is set forth in the grounds of rejection. Accordingly, applicants respectfully submit that no *prima facie* case of obviousness has been set forth and established.

Applicants respectfully submit that the grounds of rejection fail to establish a *prima facie* case of obviousness because the Lim et al. reference fails to disclose or suggest, *inter alia*, the phase locked loop of the multiband receiving apparatus as claimed in claim 1.

Claim 1 is directed to a multiband receiving apparatus including, *inter alia*, a phase locked loop for receiving a reference frequency signal and a signal output from a voltage controlled oscillator. The grounds of rejection advance that the RF phase-lock loop (PLL) circuitry 840, allegedly corresponding to the phase locked loop, receives a signal output from a local oscillator circuitry 222, allegedly corresponding to the signal output from a voltage controlled oscillator. Applicants respectfully disagree.

The RF phase-lock loop (PLL) circuitry 840 of the Lim et al. reference does not receive a signal output from a voltage controlled oscillator. FIG. 8 of the Lim et al. reference illustrates the local oscillator circuitry 222, which includes RF phase-lock loop (PLL) circuitry 840 and intermediate frequency (IF) PLL circuitry 843 (*see also* col. 14, lines 51-54). FIG. 8 of the Lim

et al. reference also illustrates that a reference generator 218 outputs a reference signal 220 to the local oscillatory circuitry 222 (*see also* col. 15, lines 27-29). However, the Lim et al. reference does not disclose or illustrate that the RF phase-lock loop (PLL) circuitry 840 receives an output signal from the local oscillator circuitry 222.

FIG. 8 of the Lim et al. reference illustrates that the RF PLL circuitry 840 outputs the RF local oscillator, or RF LO, signal 454, and the IF PLL circuitry 843 outputs the IF local oscillator, or IF LO, signal 457 (*see also* col. 14, lines 54-57). However, the Lim et al. reference fails to disclose or illustrate (in FIG. 8) that “a signal output from the voltage controlled oscillator 222,” as stated in the grounds of rejection (*Office action, p. 2, paragraph 1*) is also received by the RF PLL circuitry 840.

The Lim et al. reference does not disclose or suggest that the RF PLL circuitry 840 receives a signal output from a voltage controlled oscillator. Rather, the Lim et al. reference clearly illustrates and discloses that the local oscillator circuitry 222 receives only a reference signal 220 that is output from the reference generator 218 (FIG. 8, col. 15, lines 27-29).

For at least these reason, applicants respectfully submit that the local oscillator circuitry 222, or in the alternative, the RF phase-lock loop (PLL) circuitry 840 of the Lim et al. reference, fail to disclose or suggest the phase locked loop of the multiband receiving apparatus as claimed in claim 1. Further, since the local oscillator circuitry 222, or in the alternative, the RF phase-lock loop (PLL) circuitry 840, fail to disclose or suggest the phase locked loop that receives a signal output from a voltage controlled oscillator, the RF local oscillator signal 454, which is output from the RF PLL circuitry 840, fails to correspond to, disclose or suggest the “*control voltage for controlling the frequency of the signal output from the voltage controlled oscillator,*” as claimed in claim 1.

Furthermore, since the Lim et al. reference fails to disclose or suggest the phase locked loop of the multiband receiving apparatus as claimed in claim 1, the Lim et al. reference could not possibly disclose or suggest the low noise amplifier that receives the control voltage, and the down mixer that receives the control voltage of the multiband receiving apparatus as claimed in claim 1.

Applicants respectfully submit that the Jerng reference and the Matero reference, individually or in combination, fail to compensate for any and all of these deficiencies as applied to claim 1. More particularly, applicants respectfully submit that the Lim et al. reference, the Jerng reference and the Matero reference, individually or in combination, fail to disclose or suggest any and all of the elements of the multiband receiving apparatus as claimed in claim 1.

For at least these reasons, the grounds of rejection fail to establish a *prima facie* case of obviousness for claim 1. Accordingly, applicants respectfully request that the rejection of claim 1 under 35 U.S.C. § 103(a) be withdrawn. Since claim 5 is patentable at least by virtue of its dependency on claim 1, applicants respectfully request that the rejection of claim 5 under 35 U.S.C. § 103(a) also be withdrawn.

Claim 6 is directed to a multiband transmitting apparatus including, *inter alia*, a phase locked loop, an up mixer that receives the control voltage, and a power amplifier that receives the control voltage. For at least the reasons analogous to those discussed above in regard to claim 1, applicants respectfully submit that the Lim et al. reference, the Jerng reference and the Matero reference, individually or in combination, fail to disclose or suggest any and all of the elements of the multiband receiving apparatus as claimed in claim 6. For at least these reasons, the grounds of rejection fail to establish a *prima facie* case of obviousness for claim 6. Accordingly, applicants respectfully request that the rejection of claim 6 under 35 U.S.C. §

103(a) be withdrawn. Since claim 8 is patentable at least by virtue of its dependency on claim 6, applicants respectfully request that the rejection of claim 8 under 35 U.S.C. § 103(a) also be withdrawn.

Claim 10 is directed to multiband transmitting and receiving apparatus including, *inter alia*, a phase locked loop, a low noise amplifier that receives the control voltage, a down mixer that receives the control voltage, an up mixer that receives the control voltage, and a power amplifier that receives the control voltage. For at least the reasons analogous to those discussed above in regard to claim 1, applicants respectfully submit that the Lim et al. reference, the Jerng reference and the Matero reference, individually or in combination, fail to disclose or suggest any and all of the elements of the multiband transmitting and receiving apparatus as claimed in claim 10. For at least these reasons, the grounds of rejection fail to establish a *prima facie* case of obviousness for claim 10. Accordingly, applicants respectfully request that the rejection of claim 10 under 35 U.S.C. § 103(a) be withdrawn.

Claim 14 is directed to a data receiving method including, *inter alia*, receiving a reference frequency signal and a signal output from a voltage controlled oscillator and controlling a control voltage that controls the frequency of the signal output from the voltage controlled oscillator, and receiving the control voltage, etc. For at least the reasons analogous to those discussed above in regard to claim 1, applicants respectfully submit that the Lim et al. reference, the Jerng reference and the Matero reference, individually or in combination, fail to disclose or suggest any and all of the steps of the data receiving method as claimed in claim 14. For at least these reasons, the grounds of rejection fail to establish a *prima facie* case of obviousness for claim 14. Accordingly, applicants respectfully request that the rejection of claim 14 under 35 U.S.C. § 103(a) be withdrawn. Since claim 16 is patentable at least by virtue

of its dependency on claim 14, applicants respectfully request that the rejection of claim 16 under 35 U.S.C. § 103(a) also be withdrawn.

Claim 17 is directed to a data transmitting method including, *inter alia*, receiving a reference frequency signal and a signal output from a voltage controlled oscillator and generates a control voltage that controls; receiving the control voltage, etc. For at least the reasons analogous to those discussed above in regard to claim 1, applicants respectfully submit that the Lim et al. reference, the Jerng reference and the Matero reference, individually or in combination, fail to disclose or suggest any and all of the steps of the data transmitting method as claimed in claim 17. For at least these reasons, the grounds of rejection fail to establish a *prima facie* case of obviousness for claim 17. Accordingly, applicants respectfully request that the rejection of claim 17 under 35 U.S.C. § 103(a) be withdrawn. Since claim 18 is patentable at least by virtue of its dependency on claim 17, applicants respectfully request that the rejection of claim 18 under 35 U.S.C. § 103(a) also be withdrawn.

C. Asserted Obviousness Rejection of Claims 2, 3, 9 and 15

In the outstanding Office Action Made Final, the Examiner rejected claims 2, 3, 9 and 15 under 35 U.S.C. § 103(a) as being unpatentable over the Lim et al. reference, the Jerng reference and the Matero reference in view of the Komori et al. reference. Applicants respectfully traverse this rejection for at least the following reasons.

As discussed in section B above, the Lim et al. reference, the Jerng reference and the Matero reference, individually or in combination, fail to disclose or suggest any and all of the elements of the apparatuses as claimed in independent claims 1 and 6, and any and all of the steps of the method as claimed in independent claim 14. Applicants respectfully submit that the

Komori et al. reference fails to compensate for the deficiencies of the Lim et al. reference, the Jerng reference and the Matero reference as applied to claims 1, 6 and 14.

Accordingly, applicants respectfully submit that the Lim et al. reference, the Jerng reference, the Matero reference and the Komori et al. reference, individually or in combination, fail to disclose or suggest any and all of the elements of the apparatuses as claimed in independent claims 1 and 6, and any and all of the steps of the method as claimed in independent claim 14. For at least these reasons, the grounds of rejection fail to establish a *prima facie* case of obviousness for claims 1, 6 and 14.

Since claims 2 and 3 are patentable at least by virtue of their dependency on claim 1, applicants respectfully request that the rejection of claims 2 and 3 under 35 U.S.C. § 103(a) be withdrawn.

Since claim 9 is patentable at least by virtue of its dependency on claim 6, applicants respectfully request that the rejection of claim 9 under 35 U.S.C. § 103(a) be withdrawn.

Since claim 15 is patentable at least by virtue of its dependency on claim 14, applicants respectfully request that the rejection of claim 15 under 35 U.S.C. § 103(a) be withdrawn.

D. Asserted Obviousness Rejection of Claims 4 and 7

In the outstanding Office Action Made Final, the Examiner rejected claims 4 and 7 under 35 U.S.C. § 103(a) as being unpatentable over the Lim et al. reference, the Jerng reference and the Matero reference in view of the Davis et al. reference. Applicants respectfully traverse this rejection for at least the following reasons.

As discussed in section B above, the Lim et al. reference, the Jerng reference and the Matero reference, individually or in combination, fail to disclose or suggest any and all of the elements of the apparatuses as claimed in independent claims 1 and 6. Applicants respectfully

submit that the Davis et al. reference fails to compensate for the deficiencies of the Lim et al. reference, the Jerng reference and the Matero reference as applied to claims 1 and 6.

Accordingly, applicants respectfully submit that the Lim et al. reference, the Jerng reference, the Matero reference and the Davis et al. reference, individually or in combination, fail to disclose or suggest any and all of the elements of the apparatuses as claimed in independent claims 1 and 6. For at least these reasons, the grounds of rejection fail to establish a *prima facie* case of obviousness for claims 1 and 6.

Since claim 4 is patentable at least by virtue of its dependency on claim 1, applicants respectfully request that the rejection of claim 4 under 35 U.S.C. § 103(a) be withdrawn.

Since claim 7 is patentable at least by virtue of its dependency on claim 6, applicants respectfully request that the rejection of claim 7 under 35 U.S.C. § 103(a) be withdrawn.

E. Asserted Obviousness Rejection of Claims 11, 12 and 19

In the outstanding Office Action Made Final, the Examiner rejected claims 11, 12 and 19 under 35 U.S.C. § 103(a) as being unpatentable over the Lim et al. reference in view of the Komori et al. reference. Applicants respectfully traverse this rejection for at least the following reasons.

Claim 11 is directed to a low noise amplifier used in an RF transceiver including, *inter alia*, a phase locked loop and an LC resonance circuit using the control voltage. For at least the reasons analogous to those discussed above in section B in regard to claim 1, applicants respectfully submit that the Lim et al. reference fails to disclose or suggest any and all of the elements of the low noise amplifier used in an RF transceiver as claimed in claim 11. Applicants respectfully submit that the Komori et al. reference fails to compensate for any and all of these deficiencies as applied to claim 11.

Accordingly, applicants respectfully submit that the Lim et al. reference and the Komori et al. reference, individually or in combination, fail to disclose or suggest any and all of the elements of the low noise amplifier as claimed in independent claim 11. For at least these reasons, the grounds of rejection fail to establish a *prima facie* case of obviousness for claim 11. Accordingly, applicants respectfully request that the rejection of claim 11 under 35 U.S.C. § 103(a) be withdrawn.

Claim 12 is directed to a power amplifier used in an RF transceiver including, *inter alia*, a phase locked loop and an LC resonance circuit using the control voltage. For at least the reasons analogous to those discussed above in section B in regard to claim 1, applicants respectfully submit that the Lim et al. reference fails to disclose or suggest the power amplifier as claimed in claim 12. Applicants respectfully submit that the Komori et al. reference fails to compensate for any and all of these deficiencies as applied to claim 12.

Accordingly, applicants respectfully submit that the Lim et al. reference and the Komori et al. reference, individually or in combination, fail to disclose or suggest any and all of the elements of the power amplifier as claimed in independent claim 12. For at least these reasons, the grounds of rejection fail to establish a *prima facie* case of obviousness for claim 12. Accordingly, applicants respectfully request that the rejection of claim 12 under 35 U.S.C. § 103(a) be withdrawn.

As discussed above in section B, the Lim et al. reference fails to disclose or suggest any and all of the steps of the data transmitting method as claimed in independent claim 17. Applicants respectfully submit that the Komori et al. reference fails to compensate for any and all of the deficiencies of the Lim et al. reference as applied to claim 17.

Accordingly, applicants respectfully submit that the Lim et al. reference and the Komori et al. reference, individually or in combination, fail to disclose or suggest any and all of the steps of the data transmitting method as claimed in independent claim 17. For at least these reasons, the grounds of rejection fail to establish a *prima facie* case of obviousness for claim 17.

Since claim 19 is patentable at least by virtue of its dependency on claim 17, applicants respectfully request that the rejection of claim 19 under 35 U.S.C. § 103(a) be withdrawn.

F. Asserted Obviousness Rejection of Claim 13

In the outstanding Office Action Made Final, the Examiner rejected claim 13 under 35 U.S.C. § 103(a) as being unpatentable over the Lim et al. reference in view of the Jerng reference. Applicants respectfully traverse this rejection for at least the following reasons.

Claim 13 is directed to a mixer used in an RF transceiver including, *inter alia*, a phase locked loop and a plurality of transistors using the control voltage. For at least the reasons analogous to those discussed above in section B in regard to claim 1, applicants respectfully submit that the Lim et al. reference and the Jerng reference, individually or in combination, fail to disclose or suggest any and all of the elements of the mixer used in an RF transceiver as claimed in claim 13. For at least these reasons, the grounds of rejection fail to establish a *prima facie* case of obviousness for claim 13. Accordingly, applicants respectfully request that the rejection of claim 13 under 35 U.S.C. § 103(a) be withdrawn.

G. Conclusion


If the Examiner believes that additional discussions or information might advance the prosecution of the instant application, the Examiner is invited to contact the undersigned at the telephone number listed below to expedite resolution of any outstanding issues.

In view of the foregoing remarks, favorable reconsideration of claims 1-19 of this application is earnestly solicited, and an early and favorable further action upon claims 1-19 is hereby requested.

Respectfully submitted,

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PETITION and
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This document and any concurrently filed papers are believed to be timely. Should any extension of the term be required, applicant hereby petitions the Director for such extension and requests that any applicable petition fee be charged to Deposit Account No. 50-1645.

If fee payment is enclosed, this amount is believed to be correct. However, the Director is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-1645.

Any additional fee(s) necessary to effect the proper and timely filing of the accompanying papers may also be charged to Deposit Account No. 50-1645.